

Inspection Report with SI&A Data

Structure Description: 377.95 Foot - 2 Span Steel continuous Stringer/Multi-beam or Girder

2 District: 06 **3 County:** Boone **16 Latitude:** 38°59'32.00" **7 Longitude:** 84°38'43.00"

7 Facility Carried: I-75 RAMP

Milepoint: 180.540

6A Feature Intersected: WEST RMP KY18 TO I75SB

9 Location: SB MALL RMP @ WEST RAMP

NBI	X
Element	X
Fracture Critical	
Underwater	
Special	

NBI CONDITION RATINGS			
58 Deck:	6	61 Channel:	N
59 Superstructure:	7	62 Culvert:	N
60 Substructure:	7	Sufficiency Rating:	85.3

GEOMETRIC DATA		
48 Max Length Span:		186.024 ft
49 Structure Length:		377.953 ft
32 Approach Roadway:		25.919 ft
33 Median:		(0) No Median
34 Skew:		0°
35 Flare:		No Flare
50A Curb/Sidewalk Width L:		1.490 ft
50B Curb/Sidewalk Width R:		1.490 ft
47 Horiz. Clearance:		25.919 ft
51 Width Curb to Curb:		25.919 ft
52 Width Out to Out:		29.199 ft
48 Max Length Span:		186.024 ft

DESIGN	
Substandard:	No
Fracture Critical:	No FC Details
43A Main Span Material:	(4) Steel Continuous
43B Main Span Design:	(02) Stringer / Girder
45 Number of Spans Main:	2
44A Approach Span Material:	Not Applicable
44B Approach Span Design:	Not Applicable
46 Number of Approach Spans:	0
107 Deck Type:	(1) Concrete-Cast-in-Place
108A Wearing Surface:	(1) Monolithic Concrete
108B Membrane:	(0) None
108C Deck Protection:	(1) Epoxy Coated Reinforcing
Overlay Y/N:	No
Overlay Type:	None
Overlay Thickness:	-1.000 in
Overlay Date:	

ADMINISTRATIVE		
27 Year Built:		1990
106 Year Reconstructed:		0
42A Type of Service On:		(1) Highway
42B Type of Service Under:		(1) Highway
37 Historical Significance:		(5) Not Eligible
21 Maintenance Responsibility:		(01) State Hwy Agency
22 Owner:		(01) State Hwy Agency
101 Parallel Structure:		(N) No II Structure Exists
52 Width Out to Out:		29.199 ft

APPRAISAL	
36A Bridge Railings:	(1) Meets Standards
36B Transitions:	(1) Meets Standards
36C Approach Guardrail:	(1) Meets Standards
36D Approach Guardrail Ends:	(1) Meets Standards
71 Waterway Adequacy:	(N) Not Applicable
72 Approach Alignment:	(6) Equal Minimum Crit
113 Scour Critical:	(N) Not over Waterway
Recommended Scour Critical:	(N) Not over Waterway

CLEARANCES		
10 Vert. Clearance:		99.999 ft
53 Min. Vert. Clearance Over:		99.999 ft
54A Vert. Under Reference:		(N) Feature not hwy or RR
54B Min. Vert. Underclearance:		16.909 ft
55A Lateral Under Reference:		(H) Hwy beneath struct.
55B Min. Lat. Underclearance R:		18.701 ft
56 Min. Lat. Underclearance L:		9.843 ft

LOAD RATINGS	
63 Operating Type:	(1) Load Factor (LF)
64 Operating Rating:	110.0 tons
65 Inventory Type:	(1) Load Factor (LF)
66 Inventory Rating:	110.0 tons
Truck Capacity Type I:	tons
Truck Capacity Type II:	tons
Truck Capacity Type III:	tons
Truck Capacity Type IV:	tons

POSTINGS	
41 Posting Status:	(A) Open, No Restriction
Signs Posted Cardinal:	No
Signs Posted Non-Cardinal:	No
Field Postings Gross:	-1 tons
Field Postings Type I:	-1 tons
Field Postings Type II:	-1 tons
Field Postings Type III:	-1 tons
Field Postings Type IV:	-1 tons

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12: Re Concrete Deck

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	11,036.02	10,936.02	99%	100	1%	0	0%	0	0%

Deck~
 Deck wearing surface area was found to have a minor loss of texture throughout wheel track locations.
 Note that new concrete was placed along the rear abutment backwall since last inspection.
 Random areas throughout deck surface at or near the forward expansion joint device was found to have surface scaling and spalling conditions.
 Hairline transverse cracking was found randomly throughout deck surface.
 See Photos

520: Conc Re Prot Sys

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	11,036.02	11,036.02	100%	0	0%	0	0%	0	0%

Conc Re Prot Sys~
 Protection system was found to be performing as design.

1080: Delamination/Spall/Patched Area

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	1	1	100%	0	0%	0	0%	0	0%

Patch/Spalls~
 Note that new concrete was placed along the rear abutment backwall since last inspection.
 Random areas throughout deck surface at or near the forward expansion joint device was found to have surface scaling and spalling conditions.
 (See Photos)

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107: Steel Opn Girder/Beam

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	1,512	1,512	100%	0	0%	0	0%	0	0%

Girders~
 Note that all steel girder elements throughout structure were repainted during project performed in September of 2010. Paint system was found to be thin on bottom side of both girder elements in span #2 over KY-18 ramp and in bottom side of random steel diaphragm elements throughout both spans #1 and #2. Areas of thin protective coating detected on bottom flanges of girders in span #2 now have random areas of light surface rusting conditions.
 Note that steel girder elements were found to have minor distortion typical throughout web sections along bays in between areas of vertical stiffeners.
 Note that a small area of traffic impact damage was found in bottom flange of girder #1 in span #1, directly over local service road (small gravel lane), which now has surface rusting conditions.
 Statement from 2009 inspection report: (Note that pigeons are living and nesting on bottom flanges of structural steel members.)
 See Photos

515: Steel Protective Coating

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	8,065.01	8,065.01	100%	0	0%	0	0%	0	0%

Protective Coating~
 Note that superstructure had a total paint project in the year of 2010. Paint system was found to be performing as design.
 (See Photos)

205: Re Conc Column

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	2	2	100%	0	0%	0	0%	0	0%

Pier Columns~
 Pier column elements throughout structure were found to be performing as designed at this time.
 (See Photos)

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215: Re Conc Abutment

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	74.17	70.17	95%	4	5%	0	0%	0	0%

Concrete Abutment~
 Both the rear and forward abutment elements were found to have minor dark staining in random locations throughout (breastwalls and backwalls), due to seepage from expansion joint seal failures above. Abutment backwalls were also found to have random areas of rust staining throughout fascias.
 Hairline vertical cracking was found in random concrete bearing pedestals at abutment seat locations.
 The top portion of the rear abutment backwall was found to have a large concrete spall/pothole, approximately 4 feet long with exposed rusting reinforcing steel.
 See Photos

1080: Delamination/Spall/Patched Area

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	4	0	0%	4	100%	0	0%	0	0%

Spall~
 The top portion of the rear abutment backwall was found to have a large concrete spall/pothole, approximately 4 feet long with exposed rusting reinforcing steel.

218: Other Abutments

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	57	47	82%	10	18%	0	0%	0	0%

MSE Abutment~
 Both the rear and forward abutment elements were found to have minor dark staining in random locations throughout, due to seepage from expansion joint seal failures above.
 Minor settlement of MSE panels were noted at the forward abutment with a minor loss of sand backfill material.
 Moderate erosion at end of the left forward drainage system on topside of MSE wall and a minor opening of 3/4 inch at top edges of concrete paved gutter should be sealed to prevent water from entering area of sand backfill. Loss of sand will seriously damage this system.
 Minor bulging conditions were found in MSE panels at the forward abutment fascia, which should remain closely watched.
 Vertical misalignment was noted in the MSE coping in the center of the forward abutment breastwall.
 See Photos

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234: Re Conc Pier Cap

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	27	27	100%	0	0%	0	0%	0	0%

Pier Caps~
 Pier cap elements throughout structure were found to be performing as designed at this time.

302: Compressn Joint Seal

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	58.34	21.34	37%	17	29%	0	0%	20	34%

Expansion Joints~
 Expansion joint devices throughout structure are of Compression Seal design.
 Note that compression seal material throughout both the rear and forward expansion joint devices were found to be failing at this time. A mixture of both roadway dirt and debris buildup forcing seals downward under traffic flow and expansion throughout structure squeezing seal material upward into direct line with traffic flow has and continues to accelerate failure throughout joint seals. As joint seals become forced upward, traffic flow impacts material and cause ripping damages.
 Both the rear and forward expansion joint devices need to be replaced as soon as possible to prevent seepage to elements below.
 Note that armored edge material throughout expansion joints were found to have random areas of impact damage from what appears to be snow plow equipment. Joint at the rear abutment was found to have two sections of armored material that have been broken completely off, which is located at or near center line of joint device. Broken and missing sections of armor material are approximately 5.0 foot in length. Joint at the forward location has random areas of strikes throughout.
 See Photos

2320: Seal Adhesion

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	15	0	0%	0	0%	0	0%	15	100%

Seal Adhesion~
 Expansion joint devices throughout structure are of Compression Seal design.
 Note that compression seal material throughout both the rear and forward expansion joint devices were found to be failing at this time. A mixture of both roadway dirt and debris buildup forcing seals downward under traffic flow and expansion throughout structure squeezing seal material upward into direct line with traffic flow has and continues to accelerate failure throughout joint seals. As joint seals become forced upward, traffic flow impacts material and cause ripping damages.
 Both the rear and forward expansion joint devices need to be replaced as soon as possible to prevent seepage to elements below.

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314: Pot Bearing

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	12	12	100%	0	0%	0	0%	0	0%

Bearings~
 Bearing devices throughout structure are of Steel Painted Pot design.
 All bearing devices throughout structure were repainted during September of 2010, with all found to be performing as designed at this time.
 Due to newer paint coating system movement in devices could not be detected.
 See Photos

515: Steel Protective Coating

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	1.11	0	0%	1.11	100%	0	0%	0	0%

Protective Coating~
 Paint system throughout pot bearing devices underwent a paint project back in 2010. Paint system was found to be performing as design.
 (See Photos)

331: Re Conc Bridge Railing

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	756	756	100%	0	0%	0	0%	0	0%

Bridge Railing~
 Concrete bridge railing system throughout structure is of New Jersey Barrier Wall design.
 Note that railing system was found to have a minor loss of protective coating system throughout, along with hairline vertical flexure cracking at random spacing ft.s throughout system.
 Note that there are roadway lighting poles mounted to the top side of the left side bridge railing.
 See Photos

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851: Transitions

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	0	0%	1	100%	0	0%	0	0%

Transitions~
 Both the rear and forward approach roadway transitions to structure were found starting to show break down conditions in asphalt pavement material.

860: Erosion Ctrl/Prt

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	1	100%	0	0%	0	0%	0	0%

Erosion Control~
 Erosion control protection system was found along the rear abutment embankment slope. Rip rap material was found to be performing as design.
 (See Photos)

STRUCTURE NOTES

Structure Stamped 1989

INSPECTION NOTES

*Structure was inspected by Craig Bresch with Greg Cady

WORK

Action: 1047 - Joints-Replace

Generated by user "cbresch" on 6/17/2015

- Replace both compression seals at both the rear and forward most ends.
- Replace armored edge along the rear most end, due to impact.